

ABSTRACT

There is provided a solid-state imaging device capable of achieving both of a wide dynamic range and a high low-illuminance sensitivity. A photodiode and a first
5 transistor are provided in series between the ground and a drain of each of pixels, and a signal corresponding to a current or electric charge generated in the photodiode in accordance with an optical input is outputted from a detection node located between the photodiode and the first
10 transistor. A control part executes control to alternately repeat a logarithmic operation period during which a photoelectric conversion signal logarithmically converted by setting a gate voltage ϕ_R of the first transistor to a first level is obtained and a linear operation period
15 during which a linear type photoelectric conversion signal is obtained by setting the gate voltage ϕ_R of the first transistor to a second level.

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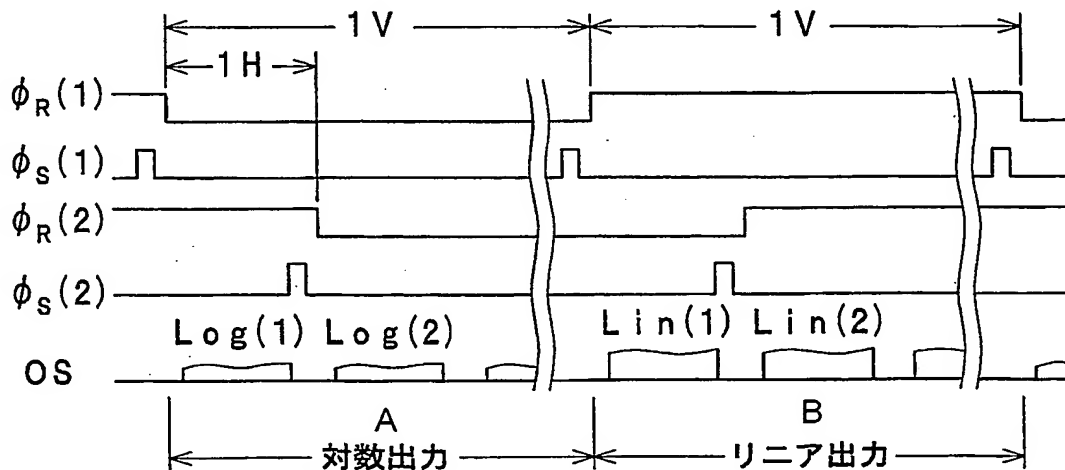
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(54) Title: SOLID-STATE IMAGING DEVICE

(54) 発明の名称: 固体撮像装置



A...LOGARITHMIC OUTPUT
B...LINEAR OUTPUT

(57) Abstract: A solid-state imaging device capable of concurrently attaining a wide dynamic range and a high low-illuminance sensitivity. A photo-diode and a first transistor are provided in series between the ground and the drain, and a signal corresponding to a current or charge generated in the photo-diode according to a light input is output from a detection node between the photo-diode and the first transistor. A control unit performs the control of alternately repeating a logarithmic operation duration for setting the gate potential Φ_R of the first transistor to a first level to obtain a logarithm-converted photoelectric conversion signal and a linear operation duration for setting the gate potential Φ_R of the first transistor to a second level to obtain a linear photoelectric conversion signal.

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